

BIOSOLIDS EXPERT PANEL

Combined Meeting of the Environment and Health Subcommittees

Meeting Minutes

Date: April 23, 2008

Location: VA Department of Fire Programs, 1005 Technology Park Drive, Glen Allen, VA

Panel Members Present:

- **Henry Staudinger**, Citizen representative
- **Dr. Howard Kator**, Virginia Institute of Marine Science
- **Dr. Greg Evanylo**, Virginia Tech Department of Crop and Soil Environmental Sciences
- **Dr. Jonathan Sleeman**, Virginia Department of Game and Inland Fisheries
- **Dr. W. Lee Daniels**, Virginia Tech Department of Crop and Soil Environmental Sciences
- **Jerre Creighton**, Virginia Department of Forestry
- **Scott P. Johnson**, Virginia Department of Agriculture and Consumer Services
- **Dr. Rima Franklin**, Virginia Commonwealth University Center for Environmental Studies
- **Dr. Alan Rubin**, consultant (principal Envirostrategies, LLC)
- **Christopher Peot**, Blue Plains, Biosolids Manager
- **Karen Pallansch**, Alexandria Sanitation Authority
- **Barry Dunkley**, City of Danville
- **Russ Baxter**, Virginia Department of Conservation and Recreation
- **James Golden**, Virginia Department of Environmental Quality
- **Dr. Susan Fischer-Davis**, Virginia Department of Health
- **Dr. Robert Call**, Medical practitioner
- **Dr. Mark Levine**, Virginia Department of Health
- **Dr. Leonard Vance**, Virginia Commonwealth University School of Medicine

The following members were unable to attend:

- **Dr. Ralph O. Allen**, University of Virginia School of Medicine
- **Dr. Tom Fox**, Virginia Tech Department of Forestry
- **Dr. Robert Hale**, Virginia Institute of Marine Science
- **Dr. John T. Novak**, Virginia Tech Department of Civil and Environmental Engineering

Supporting staff present:

- **Jeff Corbin**, Office of the Secretary of Natural Resources
- **Angela Neilan**, Virginia Department of Environmental Quality
- **Neil Zahradka**, Virginia Department of Environmental Quality
- **Christina Wood**, Virginia Department of Environmental Quality
- **Robert Hicks**, Virginia Department of Health
- **Jacob Powell**, Virginia Department of Conservation and Recreation

Introduction

Assistant Secretary of Natural Resources Jeff Corbin brought the meeting to order at 9:05 a.m.

Facilitator, Angela Neilan, reviewed the agenda as it was proposed. She reminded the panel that outside the public forum, i.e. at lunch, only 2 members can discuss panel related topics together. Ms. Neilan also reminded the citizens in attendance to sign up if they wanted to speak during the public comment and that they would each have 3 minutes.

Ms. Neilan asked the Panel to be thinking about any field trips that it wanted to make.

Minutes

The panel voted to approve the minutes from the January 23, 2008 Environmental Workgroup and Health Workgroup meetings.

9:15 a.m. - **Neil Zahradka**, Manager, DEQ Office of Land Application Programs gave a presentation on the structure of the biosolids program at DEQ, which was transferred from VDH on 1/1/08. The BUR language was inserted into the VPA Regulation. The presentation focused on the regulatory changes that were made and the impact on the implementation of the program. The PowerPoint presentation will be available on the Expert Panel Website. Major points of the presentation are outlined below.

1. Office of Land Application Programs – sewage sludges/biosolids; septage; water reclamation and reuse; industrial sludges; and animal feeding operations
2. Public involvement with permitting
 - a. With each permit application, public notice will be made and a public meeting held.
 - b. With addition of application sites to an existing permit, adjacent landowners will be notified.
3. Notice to DEQ 14 days prior to land application at each site.
4. Nutrient Management Plan required for each site.
5. Fees
 - a. Generator Fees increased from \$2.50 to \$7.50 per dry ton.
 - b. Permitting fees \$5,000.
 - c. Used to fund the biosolids programs
6. DEQ will conduct unannounced inspections, before, during and after land application of biosolids.
7. A Notice of Intended Regulatory Action (NOIRA) has been submitted to the Governor's office. The NOIRA will open the VPA, VPDES, Fee and Sewage Collection and Treatment Systems (SCATS) Regulations in regard to biosolids. Will look at storage, public notice, nutrient management, buffers.
8. Certification of Land Applicators. Began fall 2007. Currently each land applying company has certified land appliers on staff.
9. DEQ is working to get each of the land application fields into the GIS data viewer that the general public can access.
10. Compliance and Enforcement
 - a. The goal is to achieve compliance and prevent noncompliance. Ensure that the permittee provides the land applicator with everything needed to operate in compliance.

- b. Begin with informal compliance, i.e. compliance recommendation resulting from an inspection. If corrections made, the matter is resolved.
 - c. Warning Letter (WL) issued for unresolved compliance recommendations or instantaneous violations, i.e. applying in the buffer area.
 - d. Notice of Alleged Violation (NOAV) issued for repeated WLs.
 - i. Want to remove economic advantage to noncompliance.
 - ii. Remediate any environmental damage.
11. Human Health issues being coordinated with VDH.
12. Nutrient Management Issues are being coordinated with DCR.

Russ Perkinson, Assistant Director, Division of Soil and Water Conservation, Department of Conservation and Recreation gave a presentation on Nutrient Management. The Nutrient Management Program was established in 1989. 62.1-44.19:3, the current law requiring Nutrient Management Plans for biosolids was enacted in 2007. The PowerPoint presentation will be available on the Expert Panel Website. Major points of the presentation are outlined below.

1. Nutrient management Plan (NMP) - a written document prepared by a VA certified nutrient management planner to manage the amount, placement, timing and application of manure, fertilizer, biosolids, etc in order to reduce nutrient loss to the environment and to produce crops. The amount-, placement and timing of the land application of biosolids or other fertilizers are addressed in the NMPs. Major nutrient concerns include nitrogen and phosphorus, sometimes lime or metals.
 - a. Nitrogen (N) and phosphorus (P) that reach surface waters cause excess algae growth resulting in low dissolved oxygen at night, which may lead to fish kills; reduced light to the aquatic vegetation growing on the bottom of the bay; taste and odor problems in drinking water and increased treatment costs.
 - b. Nitrogen that reaches groundwater may exceed the 10 ppm drinking water standard.
2. Certified Nutrient Management Planners write NMPs consistent with DCR regulations and standards.
3. Legislation requires that a site specific NMP be developed for each land application site, prior to land application.
4. An NMP includes a cover page, a narrative (fact sheets and special conditions), spreading schedule, nutrient balance sheets, soil testing, and biosolids analysis.
5. NMP application rates of Nitrogen are based on current crop's agronomic need vs. content of Nitrogen in the biosolids to be applied and soil content. Nitrogen moves easily, that is why timing of application is very important
6. More protective practices are used on environmentally sensitive sites, which include sandy soil, shallow soils in Karst areas, steep slopes, frequently flooded soils and fields containing or draining to sink holes.
7. The ratio of N:P in biosolids does not usually match the N:P ratio needed by the crop; the P in the biosolids is usually high. Excess phosphorus applied in year 1 can be used by crops in years 2 and 3.
8. NMPs are based on 1 of 3 criteria: soil test (option 1); environmental threshold (option 2); or Phosphorus Index (option 3).
 - a. Soil test method is the most stringent.
 - b. No P may be applied under any method if soils are > 65% saturated with P.
9. NMP implementation needs to be improved with biosolids application to ensure that the NMP is followed after the contractor leaves the site.

Question And Answer Session:

- Dr. Mark Levine: Does the NMP accounts for extreme weather?
(ML)
- Russ Perkinson: Weather is random, some extreme weather is considered to prevent nitrate from leaching into the groundwater.
(RP)
- Henry Staudinger: The NMP is written to address N & P. Does it address any environmental contaminants?
(HS)
- Russ Perkinson: We address N, P, K, macronutrients, we do not address contaminants or disease causing organisms.
- Dr. Alan Rubin: Please clarify the three ways to account for P.
(AR)
- Russ Perkinson: The soil test method for determining the P application rate is the most restrictive with the least potential to lose P to the environment. The environmental threshold and P Index methods allow more P to be applied.
- Dr. Alan Rubin: Is there economic impact on the farmer?
- Russ Perkinson: Using the soil test method the farmer will get less biosolids, but there is more to go around to more farms. But the farmers would have to supplement with nitrogen fertilizer so the cost would go up.
- Dr. Daniels (LD): Disagrees that the soil test approach is less risky. Soil test does nothing to assess loss potentials of the site. Yes, less P will go down, but the P Index is more complex, it takes more effort to develop on field by field basis, but it takes into account soil loss and leaching risk at the individual site.
- Mr. Staudinger: You are putting down more, so how can it be less risky?
- Dr. Daniels: It is a question of can the P move to surface or groundwater.
- Mr. Perkinson: If the soil P is low (<55) you just apply based on N, which will usually be higher than soil test based. But for soils above 55, the P Index will most often say apply zero, and the P Index will call for sediment and erosion controls.
- Mr. Corbin (JC): How many NMPs are written based on the options 1, 2 or 3.
- Mr. Perkinson: Option 1: Commercial fertilizer and some dairy farms.
Option 2: Most dairy farms
Option 3: Hog Manure, can't be transferred very far. This is the preferable method for biosolids application because it minimizes the area required to land apply.
- Dr. Rubin: What you have is a mixture of environmental protection and economic convenience for managing waste. If buying commercial fertilizer, it is most bioavailable, can make most impact in short term, need the most protective method. Rationale for manure and biosolids is that it can be less stringent – level of protectiveness – to be able to manage this material that needs to be gotten rid of.
- Mr. Perkinson: Disagrees with rationale – does soil test with farmer because costly, don't want to pay for extra if there is no reason to apply it. Manure & biosolids, having

- other options, not because of risk, it is the economic constraints, and cost efficiency.
- Dr. Rubin: Commercial fertilizer completely bioavailable in the form of inorganic, N, P, K – must be most conservative. Can create greatest impact on GW & SW – that's why they use option 1.
- Mr. Perkinson: Using option 1, P build up in soils will be lower. Would argue with the perspective that commercial fertilizer is more risky in that circumstance, than if higher levels of P build up in soil.
- Dr. Evanylo (GE): Commercial inorganic fertilizer most soluble, but there are manures and biosolids whose availability of P approximates that, so not a good argument. If fertilizer could only be bought as 10-10-10 then would probably be able to use option 2 or 3 as well. But fertilizer can be purchased perfectly balanced to meet needs. Biosolids do not supply balanced nutrients.
- Mr. Staudinger: Is option 3 new? Thought that option 2 was the method used for biosolids.
- Mr. Perkinson: Yes, Option 3 introduced in 1995. Option 2 is also new, prior to that all, plans were based on N, then realized that P moves in the soil as well. Poultry litter has used something like option 2 for a while, has been under P restraints.

General Panel Discussion:

The facilitator posed the question: What's on your mind? She then proceeded to go around the table.

- Henry Staudinger: Pollution sensitive sites and adequate buffers. Health is the major concern; use P to limit applications for health concerns – use the soil test method for phosphorus for reducing exposure for people from a health perspective. Enforcement, but looking at the generators; require a meaningful EMS program.
- Dr. Lee Daniels: Pass
- Dr. Greg Evanylo: Nutrient concerns, however P is an environmental concern.
- James Golden (JG): Current program is strong to protect surface and groundwater, but wants to focus on aerosol releases and health issues.
- Dr. Alan Rubin: Would like to see someone make the calculations of impact on the farmer, the economics of using biosolids. Also look at negative impact of management on generators. Agree we need to look at buffers. In regard to health issues, take a look at the role of Environmental Management Systems and technology other than land application.
- Dr. Greg Evanylo: He referred to a PowerPoint slide that illustrated improved growth of corn with biosolids vs. other fertilizer and economic returns and offered it to the panel.
- Scott Johnson (SJ): Pass
- Chris Peot (CP): We need to plan field trips. Blue Plains has researched alternate technologies; he has permission to release information on some of the technologies. Will provide it to the panel.
- Dr. Howard Kator: Look at alternative technologies, because what used to go into the wastewater is not the same as what's going in now – Endotoxins, pathogen migration, effects
(HK)

- on water quality, antimicrobials that don't degrade in the wastewater. Health issue is the big question mark. Phosphorus – do the tests include organic phosphorus, soluble P or leachable P?
- Dr. Daniels: Acid digestion pulls out combination of soluble and weakly bound, soluble organic phases – what is acid soluble
- Dr. Evanylo: The tests are not designed to pull out identifiable fractions.
- Dr. Kator: They are finding that the organic P compounds are a major contributor to eutrophication processes. Don't know how they build up in soils – if they build up over long periods.
- Russ Perkinson: Mehlich I and III tests are not good at pulling out organic P.
- Chris Peot: Studying the fate of triclosan and triclocarban in the wastewater treatment plant and fate and transport of PPDEs at land application sites.
- Facilitator: One of the big tasks of panel - what is in it?
- Dr. Kator: We talk about buffers for nutrients, but what about biologicals, entoxins – how to measure those things and come up with meaningful recommendations?
- Russ Baxter:
(RB) The NMP is meant to manage Nitrogen and Phosphorus. Are there management practices built in to limit soils movement that would have benefit for other than N & P? If it prevents movement of nutrients, is it preventing movement of other chemicals? Can the NMP be written to kill 2 birds with one stone? Question of testing biosolids for Nutrients, there is a presumed average of nutrients that is factored into the plan and potential for a lot of variability between plants. Can NMP be written based on what is actually going down? There is a larger long term water quality issue because the farm may not always be a farm, so it won't always be managed that way.
- Dr. Rima Franklin:
(RF) Environmentally – buffers and transport issues. Do environmental management systems and how it coordinates with health issues need to be considered. Would be interested in learning more about alternative technologies.
- Jerre Creighton:
(JC) As an environmentalist, not familiar with the health issues, but most concerned with human health. It appears that most environmental issues are being well addressed by DEQ and DCR. Still have concerns about compliance and enforcement. Concerned with surface movement of P and alternative technologies. As someone who put one of the first biosolids plots in forestry, may have preferred Class A having to work in it.
- Dr. Robert Call:
(RC) What is in biosolids, what is in the soil after the biosolids are applied? We have to think about the future and keep up with what is in it. Provide a means of following and evaluating human health complaints. Were there complaints when fertilizer was first introduced? What is the recourse of someone with real biosolids injury?
- Dr. Susan Fisher Davis:
(SF-D) We need to look at the UNC protocol to collect information from patients to help us answer some of these questions
- Karen Pallansch: Agrees with all.

Barry Dunkley: Health issues are number one, we need to address that in this report. Pollution
(BD) sensitive sites and the sensitive population – there are folks that are sensitive to odors and sinus conditions, but must be careful or everyone becomes a sensitive citizen. Buffers, current are a good starting point, but buffers are not the answer to everything. And, he is against a moratorium on biosolids applications with the current research and technology that we have, it is not appropriate at this time.

Dr. Mark Levine: He believes that it is telling when the environmentalists' major concern is
(ML) health. An epidemiological approach should be taken. There is a lot of confusion about whose role it is to work on health issues and who will work with the particularly sensitive people.

Dr. Jonathan Sleeman: We need to know the potential health affects on aquatic and terrestrial wildlife
(JS) species and discuss potential funding sources.

Neil Zahradka posed the question - How do we get to the report? Do we pull from the minutes? Pose to use minutes to address the GA questions after each meeting and show where we are with each one.

Nutrient management has been issue of concern, but if we recommend an EMS it includes a NMP.
(BD) Are we going to limit loading rates based on N, P or something else?(LD) The NMP also addresses pH. The actual pH limit depends on DEQ; VDH had coordinated with DCR to include pH in their criteria for NMPs.(RP)

Is the NMP and P application a way to protect health?(NZ) There are no regulations to address health so if you lower the application rate, you lower the exposure. You need to use the tools you have. (HS) Assuming there are health affects from biosolids, many of the panel believe that they are negligible.(GE) But if the application rate is cut in half and we get twice as many health complaints then we have a bigger problem than we thought.(HS) But no study has shown that N and P act as surrogates for Endotoxins and emerging contaminants – micro-constituents. (HK) There are 2 different topics here: 1) biosolids as fertilizer and 2) micro-constituents in biosolids i.e. trace organics.

And another issue is that that we have some P overloaded soils in VA. We need to minimize P overloading, reduce exposure and look at the impact on the farmer, the generator and the Land application contractor. If all fields are tested and biosolids applied only when P is low or medium, then other farmers could get biosolids. Need to look at long and short term risk to surface water and groundwater with the 3 methods of P application. (GE) Get a better understanding by more testing – nutrients and micro-constituents. (RB) But which of thousands of constituents do we test for (JC) and if found to be present what does it mean? We won't know the real impact of biosolids on health for the next 30 or 40 years.(AR) What do we look at now? The 503 rule calls for analyzing N, P and 13 metals. P is usually fairly consistent, N varies. A 1% or 2 % difference could lead to 50Lb/acre over application. (LD) Any data may help direct the monitoring of human and wildlife health, help to set research agenda for the future. (JS)

Lunch Break: 11:35 – 12:35

Reconvene at 12:45

General Panel Discussion:

The Status of Buffers and Health Protection:

There are questions now about the effectiveness of the National Biosolids Partnership EMS in regards to Biosolids and human Health. (CP) Some generators are voluntarily getting the EMS and into DEQ's Environmental Excellence program, but it focuses on wastewater treatment. (KP) The value of a meaningful and well run EMS is that you comply and go above and beyond to reduce your environmental and human health footprint. You have to at minimum apply the 503 Rule which was based on health protection. (AR) There is need to further research health impacts. (BD) The Commonwealth Health Research Board offers up to \$200,000 over 2 years to conduct research. (RC)

The dilemma is that there is potential health risk, not defined health risk. We need to acknowledge that there is uncertainty; it needs to be brought to the forefront that there is a dilemma and uncertainty. Current buffers include: 200 feet from occupied dwelling; 100 ft from property line; 100 ft from well. When are buffers meaningless? When should you opt not to apply? High winds? Mandatory exclusions and setbacks are identified in DCR's Standards and Criteria. If biosolids are applied in accordance with the regulations DEQ can't do anything else, can not make a medical judgment. (JG) With a medical complaint it needs to be determined if it is safe or not to apply; the application needs to be held up until determined. (ML)

Wild life studies have included the shrew; they consume more soil to body weight and not showing any detrimental effects. (GE) But we need to look at animals with a longer life. (JS) Studies have been conducted where biosolids have been fed to cattle and hogs. (GE) Animals in woodlands with biosolids application have been found to have exposure to trace metals but no measurable health effects. (AR) There are thousands of components to consider, should consider bioassays to look at effects without determining exactly what is in it.

Recommendations out of the discussion

- Ask the General Assembly to consider statutory framework for VDH to address health issues. (JG) Create a formal relationship with VDH. Clearly define who is responsible for what. (KP)
- Recommend that the GA adopt the UNC Survey in VA. (CP) Implement a protocol – where to report complaints. (RC)
- The medical community needs to be brought up to speed on biosolids. (ML & SF-D)
- Improve/establish buffers for those at high risk; compromised immune system, undergoing chemotherapy, etc. (HS) Need to create an organized system to identify high risk citizens (ML). The EMS approach would involve negotiated buffers and address environmental factors that affect buffers.
- Virginia establish a funded system to investigate potential effects on wildlife from biosolids applications, including both acute and chronic health effects. (JS)
- Address transportation and storage. (BD)
- Clarify the role of the local monitors

The NOIRA is in executive review, will undergo 60 day comment period and then the TAC is assembled.

2:00 p.m. Biosolids Generator Data

DEQ sent out 40 letters requesting data. 16 facilities submitted data; 5 facilities responded that they no longer land apply. Most of the data is in pdf format so it can not be manipulated. (NZ) A doctor may find the data helpful in the case of infectious disease, looking at microbiological components. Are the pathogens expected in biosolids? (RC) Yes, but numbers of pathogens present on biosolids are much lower than that found in fields with cattle and wildlife. (GE) It may be possible to look at ranges – minimums and maximums – for various components. Much of the data is what is routinely reported, we know those things are in it.

Should we ask the General Assembly to request the data in Excel spreadsheets? Howard Kator volunteered to look at some of the data.

2:23 p.m. Planning the Final Report

Create a shell for the report that is made up of the General Assembly's questions, then use the minutes to fill in the answers. What we know; what we don't know; what do we need to do about it. The report should reflect dissenting opinion. We need consensus on the major recommendations – the politicians will realize that if the panel can't reach consensus why should they. (AR)

All meeting must be held by November 30, 2008.

Final report is due in January 2009, when the General Assembly reconvenes.

2:33 Wrap Up

Field Trip – Chris Peot is making arrangements

Alternative Technology – Alan Rubin will try to arrange a guest speaker

Next meeting: Full Panel, Wednesday, June 25, 2008, ~~1—4 p.m.~~

This has been changed to an all day meeting (cmwood 6/12/08)

2:37 p.m. Public Comment

Paul Foster from Pamplin, VA – Biosolids were land applied on a farm adjacent to his home in January 2008. His 7 month old was diagnosed with RSV one week prior, and the 3 yr old son has respiratory illness, and just got over pneumonia, he has documentation from his UVA doctor. Found out that application was set for January 28. The 2'x 2' notification sign was posted parallel to the road so that it could not be seen while driving by, in the middle of a 200 acre field. Mr. Foster called the local monitor Saturday. Sunday the monitor came by and looked at the doctor's letter. The monitor agreed that it was a concern, but there was nothing he could do about it and that Mr. Foster needed to talk to Fred Di Lella of DEQ. The application was supposed to start at 6:00 a.m., but Mr. Di Lella would not be in until 9:00 Monday morning. So Mr. Foster called Mr. Di Lella at home, who told him that he needed to talk to the "state" person, so he tried to find Neil Zahradka phone number, but he is unlisted. He went to the land application site at 5:00 in the morning and presented

the workers with the documentation. They told him that if they didn't apply, he would have to pay the transport fees for all the trucks that came in. He asked them to apply to the fields furthest from the house first, and they agreed. Mr. Foster spoke with Mr. Zahradka on Monday, and was told to call the local health department, where he got the message that the doctor was retired and to contact DEQ for biosolids issues. He finally called NutraBlend and was told that they would stay off a certain tract of land. 2 days later Mary called and told him that they were going to apply there. Then he called the monitor, if there were medical concerns they could get a 3 day stay or maybe they wouldn't apply at all but there are no guarantees. Mr. Foster asked for a 3 day stay, but was then told that it started Monday, so they started to apply the next day. He asked the monitor if they would apply to the fields farthest from the house until he could get a buffer established. The monitor told him that he is a neutral party and can not tell the contractor where to start. Mr. Foster tried to call local health director, but she was out of town and was put in touch with Dr. Twill in Hanover County, who was filling in. Dr. Twill thought it was a concern and contacted Emanuel Toombes, the county monitor and said that there should be a stay. Mr. Toombes told him that he needed something in writing or he couldn't do anything. So he called Mr. Zahradka, who also said that he needed something in writing. Mr. Foster emailed a plat to Dr. Twill and based on the compromised immune system and respiratory ailments of the child, Dr. Twill sent an email to Mr. Zahradka establishing a 2000 ft buffer from the residence. They had already started to apply within 2000 feet of the house and the truck route was within 2000 feet of the house. Application stopped within minutes of Mr. Zahradka getting the email.

What the Health Department established was good, but the runaround he received was ridiculous, especially having the documentation from a leading pediatrician.

Mr. Foster said that someone from the panel reported on TV that biosolids caused no public health issues and that Mr. Foster was being persuaded by someone. Both children continue the need for respiratory treatments.

Local monitors need the right to stop situations like this.

He is 300 feet from the application site, it smelled for 3 months after application. Still smells moldy after it rains or when there is heavy dew.

C.W. Williams, Chairman, Biosolids Information Group; Appointed Advisor by the Commissioner of Health to the Biosolids Use Advisory Committee; Appointed Advocate of the Court for Children that are Abused and Neglected. The issue with Mr. Foster, along with other cases that he has documented on video is child endangerment. The generators name and number was not on the signs, there is misinformation on the signs in Louisa and Prince Edward Counties. As a citizen's representative dealing with HB2827 that gave authority to local monitors and in 2003 representing Dr. Levine's opinion that the local health district should be involved in monitoring health complaints. Regulation is specific - if establishment of regulation is needed for prevention of public safety and welfare, the *Board or Commissioner, may immediately promulgate and adopt the necessary regulation by complying with procedures set forth by 32.1-13. 12 VAC 585-260 states "however, the board may impose standards and requirements that are more stringent than those contained in this regulation when required to protect public health or prevent nuisance conditions from developing either within critical areas, or when special conditions develop prior to or during biosolids use operations." There is no question that this is statutory authority. There is no question that panel is getting information designed to confuse. The Baltimore waste industry is using children

as guinea pigs. One of the panelists posted a blogger opinion as fact. Dr. Tom Burke of John's Hopkins University, past chairman of the National Academy of Science...

Mr. Williams asked that a copy of his full presentation be posted on the biosolids website. It also follows these minutes.

*Health Department - 32.1-13. Emergency orders and regulations.

The Board may make separate orders and regulations to meet any emergency, not provided for by general regulations, for the purpose of suppressing nuisances dangerous to the public health and communicable, contagious and infectious diseases and other dangers to the public life and health.

Mary Graf, with The Coalition. Thanked those panel members who are bringing out the truth of the issues. Ms. Graf read a letter from Barbara Rubin, who has not been able to attend the meetings due to her declining health. Her letter follows.

Rhonda Bowen, HRSD, Recycling Manager. They have had a land application and composting program since the 80's. They also have alternate technologies such as incineration and land filling. HRSD is offering the panel the resources that HRSD has. CW mentioned the Baltimore study; the Kennedy-Krieger Institute worked with Johns Hopkins, information has been published.

4-23-08 Expert Panel Presentation

I Intro

II Panelists' Confusion

Circulation of junk information ranging from bad science and attacks on those citizens most affected by sludge pollution constituents is designed.

How this is supposed to work is that fellow panelists are placed on committees to discredit and blame the citizenry as being hysterical and without foundation. Unfortunate for them, we have seen this way too often and can offer corrective examples.

III Example: Waste Industry Using Children in Experiments:

You have been inundated with a barrage of false propaganda that again, it is the citizens whom are at fault and hysterical. One of your panelist, with a PhD and professes to be a scientist, recently circulated a Blogger's opinion. This opinion had no relevance to scientific documentation nor bases for citizen hysteria, yet in his zest to satisfy his puppeteers, he supported this "opinion" as a fact.

Now let's look at the facts relevant to the Baltimore experiment of using children in a harmful way:

Professor Dr. Thomas Burke, John Hopkins and past Chairman of the National Academies of Science, "There are potential pathogens that are not in the realm of safe"; "What's needed are more studies on what's going on with pathogens in sludge..are we actually removing them?... the commitment to connecting the dots hasn't been there". He can hardly be considered a hysterical citizen

You have been told there was no danger to those resident children in Baltimore, however, AP reports that there is no evidence of medical follow-up; that the study concluded that phosphate and iron can increase the ability of soil to trap more harmful metals, including lead cadmium, and zinc. What about the other sludge pollution constituents? Why was sludge pollution used vs. only the proposed binding elements? Not a hysterical citizen.

Legislators Waxman, Boxer, Mikulski, Cummings, Issa, NAACP Leaders, and even the Maryland Court of Appeal have asked for investigations and the lawsuits have been allowed to move forward. Hardly hysterical citizens.

The fact that KKII, the study coordinator, temporarily lost its license for research on humans after a woman died in an asthma study (July 28) should be of concern. She was not a hysterical citizen, just a dead one.

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The fact that a similar experiment using poor black communities in St. Louis, with similar harmful effects should be of concern. A Baltimore Circuit Court Judge compared these experiment to Nazism. He is not considered a hysterical citizen.

It should be of great concern that the government agencies and the experimenting institute's answer is as follows:

Q. Why did you not disclose the potential hazards of the exposure to the compost?

A. "We didn't disclose potential hazards to the Ecklogy/Orgro Class A compost because at that time there were no known hazards."

This is the same situation in VA, not testing/analysis...no known effects, i.e., no risk list available to sludge pollution user nor the public.

In conclusion, shams like the EMS and Biosolids Use Regulations are designed to cover up harmful effects, while restricting any protective measure for citizens and their environment is continuing. Until there is support to make meaningful changes, Virginians will continue to suffer from being put into harms way by forcible exposure to sludge pollution.

You members with a love for family and community can make a difference, based to sorting out the facts, for their future. You do not have to be intimidated nor brain-washed by frivolous accusations against those affected by sludge pollution harm. Let your mind, heart and logic dictate your contribution to a meaningful report to the General Assembly or you will be next.

C. W. Williams, Chair
Biosolids Information Group
BURAC-Citizens' Representative
540-872-2409
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Read by Mary Gray

Barbara L. Rubin

1496 Teague Drive

McLean, VA 22101

703-847-8430

Dear Biosolids Expert Panel Members::

I planned to come in person to speak to this panel, but my continually declining health has not permitted me to make the trip. I ask that you accept this letter read by my designated representative.

The farms surrounding my small village in Loudoun County, started land application of sewage sludge, so called "fertilizer," for the first time around 2001. During the application season from July 2001 to December 2001, I as well as over 100 other individuals, (that I knew of) in our village of 250 people, became ill with "signature" sludge-linked illnesses. These included irritated eyes, nose, throat, flu-like symptoms, bloody noses and stools, rashes, lesions, and severe respiratory problems including 10 pneumonia cases (3 times the national average for the population.) Almost all reports of illness were described as more virulent than normal and/or not responding to traditional medical treatments.

Before my sewage sludge exposure I was a healthy individual. After my initial virulent pneumonia that took 4 months and 8 courses of antibiotics to suppress, my health started a steady decline. I developed chronic diseases that continue to worsen in spite of costly and continual medical care.

I am certain toxic sewage sludge triggered my health decline. Most doctors now acknowledge many of the increasing movement disorders, respiratory problems, and diseases like cancer, etc. are triggered by environmental pollution.

- Loudoun Neighbors Against Toxic Sludge website lists 10 letters from Virginia doctors who attribute their patients' illnesses to sludge exposure. http://www.loudounnats.org/links_letter.htm.
- Dr. David L. Lewis has a peer-reviewed study <http://www.biomedcentral.com/1471-2458/2/11/qc> that links all the illnesses previously described to sewage sludge exposure.
- There is also a 2007 Archives of Environment & Occupational Health Ohio health survey which concludes: "The findings suggest an increased risk for

certain respiratory, gastrointestinal, and other diseases among residents living near farm fields on which the use of biosolids was permitted."
http://www.loudounnats.org/pdf/TOLEDO_HEALTH_STUDY_2007.pdf

The sludge promoters do not have even one scientific study that concludes sewage sludge exposure is safe for public health. It is common sense to believe neighbors, who get no benefit from manufacturing illnesses, than the self-serving denials from sludge industry personnel whose profits are close to 2 billion dollars a year. **EPA, government agencies, and industry are in the preposterous position of claiming a material, whose contents they cannot identify, doesn't make people sick.** How can they possibly know? EPA never even considered neighbor health. According to the 2002 National Academy of Sciences report: "EPA did not consider airborne and waterborne release and dispersal of microorganisms for off site exposure."

It is important for this panel to know that the concerns and desires of many Virginia sewage sludge victims have not been articulated at these panel meetings. Many of us who have suffered from the horrible effects of exposure to this complex toxic soup would like to see an **immediate moratorium** on the sewage sludge program until credible scientific evidence is available that it is safe for public health. We are certain this is the only course of action that will result in meaningful improvements of illnesses and deaths attributed to sludge exposure.

Unfortunately, the members on this panel do not promote our strongly held opinion. Instead, they have their own agendas, influenced by the fact that many have vested financial interest in continuing land applications. Some are paid to do research on the benefits of Biosolids by industry interests, and others have jobs which generate the sludge and find ways to dispose of it. One member recently retired from EPA where he devoted his entire career to promoting the current sludge program. His professional reputation is tied to continuing land applications, and he is currently a consultant to the sludge industry. The lone citizen representative has taken a position that tinkering with current regulations will be beneficial. I strongly disagree with this view, since there is not a shred of scientific evidence that supports any of the current regulations concerning setbacks, storage, or that proves sludge safe for public health.

- The lack of credible science began at the inception of the Sludge Rule which failed to pass EPA's Office of Research and Development's peer-review. Since then there has been overwhelming opinion that the EPA's Sludge Rule is insufficient to protect the public health.
- A 2000 EPA Inspector General's report said "...while EPA promotes land application, EPA cannot assure the public that current land application practices are protective of public health and environment."

- A September 6, 2002 memo from the EPA Inspector General says: "EPA does not know whether current regulations, when adhered to are protective of public health."
- The Center for Disease Control's, National Institute for Occupational Safety and Health "Guidance for Controlling Potential Risks to Workers Exposed to Class B Biosolids" verifies the illness link: "Do we know these pathogens can cause disease? Yes...These enteric organismscan develop into more serious diseases in sensitive populations such as immune-compromised individuals, infants, young children and especially the elderly."
- A second EPA Inspector General Report in Spring 2002 said: "Failure to properly manage sludge may have adverse effects on human health and the environment." We know from the JLARC report, Virginia does not properly manage sludge.

Why are the sewage sludge victims being victimized again? Why are the Virginia Department of Health and the Department of Environmental Quality ignoring and denying legitimate concerns and sticking to claims that have no scientific validity?

In view of all the negative reports and studies, why is there not a cry from the members of this panel to halt this heinous program? How much more evidence do we need that sewage sludge is linked to reported illnesses? Why bother to tinker with regulations which are not protective and will never eliminate or even lessen the many thousands of cases of health harm and deaths that occur in populations exposed to land applications of sewage sludge?

I would greatly appreciate consideration of the moratorium request in this letter. I will be happy to be available by phone for further discussion.

Sincerely,

Barbara L. Rubin

Loudoun Neighbors Against Toxic Sludge

www.LoudounNATS.org